DOCUMENT RESUME

ED 316 414 SE 051 244

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TITLE Environmental Literacy in Undergraduate Higher Education: Three Arenas for Involvement.
PUB DATE 89
NOTE 8p.; Paper presented at the Annual University of Kentucky Conference on Appalachia (4th, Lexington, KY, November 2-3, 1989).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College Science; Conservation (Environment); *Educational Improvement; *Environmental Education; Higher Education; *Interdisciplinary Approach; *Program Descriptions; Science Education; *Scientific Literacy
IDENTIFIERS *Warren Wilson College

ABSTRACT

With environmental awareness on the rise in the late 1980's and increasing into the 1990's, higher education is presented with a number of opportunities for environmental education. This paper addresses three ways in which institutions of higher education in Appalachia and elsewhere can respond to the continuing need and present calls for environmental literacy. Presented is some background on programs at Warren Wilson College, North Carolina, and suggestions for involvement of institutions of higher education in environmental education. These suggestions are grouped into three general categories: general education; degree programs; and community outreach. Examples are given to illustrate the breadth of opportunities available that are not confined by discipline, classrooms, or campuses. (CW)

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ENVIRONMENTAL LITERACY IN UNDERGRADUATE HIGHER EDUCATION: THREE ARENAS FOR INVOLVEMENT *

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Introduction

Time magazine's "Planet of the Year" cover for its first issue of 1989 may turn out to be the signal of a new, lasting wave of public attention to the environment. Although Gallup polls showed that support for protecting environmental quality remained high since the activism of the late 1960's and early 1970's, other social and political problems had captured people's attention.

Today, however, concerns over such issues as global warming, depletion of the ozone layer, brimming landfills and tropical deforestation have moved back into the forefront of public outcry and media coverage. Preparations are well under way for Earth Year 1990 to celebrate the 20th anniversary of Earth Day. The stage is set for substantial efforts to improve the environmental literacy of the nation's citizens.

Two decades ago, colleges and universities responded in a number of ways to what historians call the "third wave" of the environmental movement. Many substantially modified their existing offerings in biology, natural resources management, philosophy or the social sciences to include units and entire courses on the environment. Others initiated environmental studies curricula leading to certifications, concentrations and degrees (Schoenfeld and Disinger, 1978). Campus interest groups formed.

Higher education is once again presented with a number of opportunities for environmental education. This paper will address three ways in which institutions of higher education in Appalachia and elsewhere can respond to the continuing need and present calls for environmental literacy.

My experience with environmental education at the college level for the past eight years has been as a member of the environmental studies faculty at Warren Wilson College in Swannanoa, North Carolina. Since many examples and

SE051244

* Paper presented at the Fourth Annual University of Kentucky Conference on Appalachia: Environment & Technology in Appalachia. Lexington, Kentucky, November 2 - 3, 1989.

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perspectives presented here are drawn from Warren Wilson, some background on the College is provided below.

Warren Wilson College

Warren Wilson is a small private college located in the Blue Ridge Mountains of western North Carolina. Presently it has an enrollment of approximately 500 undergraduates. Founded in 1894 by the Presbyterian Church, USA, as a farm school for Appalachian mountain boys, the institution grew to a two-year vocational college, a two-year junior college, and then, in 1967, to a four-year liberal arts college (Jensen, 1974; Banker, 1984). Today Warren Wilson also offers a low-residency graduate program leading to the Master of Fine Arts in Creative Writing.

In addition to meeting the College's academic standards, each student must also complete a service project of at least 60 hours in order to graduate. This requirement has been in place at Warren Wilson for three decades. A third dimension of the undergraduate experience is the work program, through which students earn most of their room and board by working 15 hours a week on one of over 60 work crews. All resident students, regardless of family finances, participate. Job responsibilities range from clerical and janitorial tasks to running computers, repairing audiovisual equipment, and raising hogs or broccoli.

Warren Wilson College began its Environmental Studies Program in 1977, a time when environmental matters no longer captured the headlines as they had five to ten years before. Nevertheless, environmental studies has been the school's second-largest major for several years. Requirements for a major in environmental studies combine disciplinary breadth, depth in a concentration selected and designed by the student, and field and laboratory experience. (See Bousquet and Robertson, 1985.)

Since environmental studies is an applied field, two internships are strongly recommended before graduation. Students are also encouraged to select one of the College's many work crews in order to gain relevant work experience. These include the farm, garden, biology lab and natural resources crews as well as the environmental studies crew which maintains campus trails, organizes environmental conferences, and carries out a number of community-focused education and research projects. More will be said later about community outreach.

Although Warren Wilson's location, heritage of service to Appalachia, and work program offer special opportunities for fostering environmental literacy, the activities described in this paper not specific to this one campus. Experiences

across the continent show that these initiatives can be undertaken by most, if not all, undergraduate institutions.

Three Arenas for Involvement

Opportunities for an undergraduate college or university to become involved in environmental education can be grouped into three categories: general education, degree programs, and community outreach. Although this discussion begins with general education, it will focus primarily upon the latter two areas.

Environmental Literacy in General Education

If part of the purpose of undergraduate education is to prepare citizens for coping with and effecting changes in the modern world, environmental literacy should be a component of every student's general education. Historically, however, institutions have found it difficult to add a course on the environment to what many faculty--and students--already view as an overloaded general education curriculum.

Therefore, the more common approach has been for the faculty in a number of departments to "environmentalize" existing courses. College teachers have added discussions, lectures, debates, and various types of student projects dealing with environmental concerns. These changes have occurred most frequently in the natural science fields, particularly biology and chemistry, and in the social sciences, particularly sociology and geography. However, courses that include environmental literature and environmental ethics have also been developed.

One benefit of this across-the-curriculum approach is that students can recognize environmental quality as part of all disciplines, instead of viewing it as a responsibility that can be conveniently delegated to specialists and ignored by everyone else. Several guidelines and policy statements for environmental literacy as a component of general education appear in the proceedings of the First National Congress for Environmental Education Futures (Gustafson, et al., 1983).

Environmental Literacy through an Academic Program and Major

Many colleges and universities have found the student demand, faculty commitment, institutional resources and administrative support necessary to develop and sustain complete environmental majors leading to a bachelor's degree or special certification. Those programs centered in the natural sciences, engineering or health science departments are often termed "environmental science". The label "environmental studies" is generally used for the more interdisciplinary and interdepartmental programs

Regardless of their title or location within the institutional structure, successful environmental studies and environmental science programs generally share the following characteristics:

1. They are interdisciplinary, incorporating perspectives, concepts and procedures from the natural and social sciences, fine arts and humanities.

2. They are both theoretical and experiential, combining conceptual understandings with opportunities to apply this knowledge in the laboratory, on campus, in the field, and in cities and towns nearby and further afield. If technical equipment can be shared with science departments, the largest environmental studies program expenditures often go towards student transportation.

3. They include depth in a particular environmental studies sub-field such as environmental economics, forestry, analytical chemistry, environmental education, waste management or environmental health. Students are not permitted to take an "environmental studies appreciation" curriculum that involves only 100-level and 200-level courses. A concentration or speciality is required.

4. They include the necessary student support services such as assistance in locating jobs and internships There are a half-dozen periodic listings of employment opportunities in environmental fields to which a department may subscribe. Faculty--and often staff and administrators--are involved with students in sponsoring environmental clubs and organizing special events.

5. They possess an institutional identity, with designated environmental studies faculty, course offerings and budget lines.

6. They develop working relationships with faculty in other campus programs, with environmental professionals in the area, and with local and regional environmental organizations. They are not isolated from the rest of the campus, from the profession, or from their communities.

Time and space do not permit an elaboration of these characteristics here. Interested readers are referred to McGowan and Kriebel (1975), Harde (1982) and Disinger and Schoenfeld (1987).

Environmental Literacy Beyond the Classroom and Campus

The point has been made that environmental studies is an applied field, not a strictly theoretical one. Therefore, students require experience in testing their knowledge outside the classroom. The campus provides an excellent example of a human community that must come to grips with energy use, water supply, food

purchasing, waste disposal, land use and other decisions that directly affect the environment. What better way for students to develop competence and confidence than to include studies of campus policies and practices in environmental studies courses? This is not only good environmental education, it becomes good citizenship education as well.

As any study of a campus's environmental practices will reveal, colleges and universities are linked with the rest of the world by innumerable pathways of spending, consumption and disposal. Many private and all public institutions are also connected to communities outside the campus borders through their formal statements of purpose that call for service. Projects that address local and regional environmental needs can become an important part of higher education's service mission. These efforts need not be relegated to campus units isolated from students and from the academic program. Students can and should play important parts in campus-to-community outreach.

Some examples from Warren Wilson College will help illustrate the possibilities. Twice each year students, faculty and staff help coordinate and participate in stream cleanups sponsored by Quality Forward, a community betterment organization. The environmental studies program and student work crew annually host the Western North Carolina Environmental Summit, which brings together citizens and environmental organizations for workshops and updates on current issues. A grant from North Carolina Stream Watch to Warren Wilson funds a citizens stream monitoring group and educational programs in local schools. Another grant, this from the Tennessee Valley Authority, supported feasibility studies of alternate crops for Appalachian farmers. Students and faculty jointly conducted the research and presented results in several community workshops.

Through Stream Watch a group of students, with faculty advisors from the environmental studies, biology and theatre departments, wrote and put on a play about "adopting" local streams. The student performers went on tour over Christmas Break to elementary schools in the western and central parts of North Carolina. This project led a Warren Wilson student to submit another grant proposal which funded the development of a stream study curriculum and educational kits that are now loaned to teachers through three cooperating "sharing centers" in the state.

An event with far-reaching impact was the conference, "Buncombe County in the 21st Century: Are We Prepared?," held at Warren Wilson College in 1985. Ronald Eller spoke of the Appalachian region's history and prospects, and keynote speaker Ian McHarg urged citizens at the conference to find out who the people in their communities are, what they like and dislike about the area, and what they think will be necessary to insure their communities' futures. Inspired by McHarg and Eller, Warren Wilson College secured donations and grants for a series of

research and development projects in the local Swannanoa Valley. These are now coordinated by the Black Swan Center, which takes its name from the area's two principal towns, Black Mountain and Swannanoa.

The key ingredient in Black Swan is the mix of students, faculty, staff and community members, who together have set the goals and done the legwork. Warren Wilson provides temporary staffing and an institutional home for Black Swan projects, but most are designed to "spin off" into the community and be run by local citizens. One project assists people who are thinking of starting small businesses in the Swannanoa Valley. Students run "business basics" courses at the Center. Small amounts of start-up capital are then available to persons who complete a course and develop business plan. Another project involves energy conservation consultation, retrofitting and education for businesses and low-income families. At the end of this year, its headquarters will move from Warren Wilson College to a community center that Black Swan helped start. Additional information about Black Swan appears in a report (Haney and Solomon, 1989) available from Warren Wilson College.

Outreach efforts connect theory with practice and students with service. These projects can enable a college or university to share its expertise, educate its students, involve its faculty and provide service to surrounding towns and cities--all at the same time.

Conclusion

Through general education, degree programs and community outreach, higher education can fulfill its role in developing environmental literacy. The examples presented here only begin to illustrate the breadth of opportunities available, opportunities that are not confined by the walls of discipline, classroom, or campus.

References

Banker, Mark T. 1984. Toward Frontiers Yet Unknown. A Ninetieth Anniversary History of Warren Wilson College. Swannanoa, North Carolina.

Bousquet, Woodward, and Ian Robertson. 1985. "Toward Global Awareness by Integrating Learning, Work and Service at Warren Wilson College," pp. 436-444 in Disinger, John F., and John Opie, eds. Environmental Education: Progress Toward a Sustainable Future. Selected Papers from the Fourteenth Annual Conference of the North American Association for Environmental Education. Troy, Ohio.

Disinger, John F., and Clay Schoenfeld. 1987. "Case Studies in College and University Environmental Studies Programs Today--A Decade Later". The Environmental Professional 9 (3): 185-188, 265-269.

Gustafson, John A., et al., eds. 1983. The First National Congress for Environmental Education Futures: Policies and Practices. Conference Proceedings--Policies Track. Columbus, Ohio: SMEAC Information Reference Center.

Haney, Laura Temple, and Louise Solomon. 1989. Black Swan, Year One. Swannanoa, North Carolina: Warren Wilson College.

Harde, R. Bruce. 1982. Environmental Studies: The Undergraduate Curriculum. Unpublished Ph.D. dissertation. Cincinnati: The Union for Experimenting Colleges and Universities.

Jensen, Henry W. 1974. A History of Warren Wilson College. Swannanoa, North Carolina.

McGowan, Alan, and David Kriebel. 1975. "Higher Education Environmental Programs," pp. 108-122 in McInnis, Noel, and Don Albrecht, eds. What Makes Education Environmental? Louisville, Kentucky: Data Courier, Inc.

Schoenfeld, Clay, and John [F.] Disinger. 1978. Environmental Education in Action--II: Case Studies of Environmental Studies Programs in Colleges and Universities Today. Columbus, Ohio: ERIC/SMEAC Center for Science, Mathematics and Environmental Education.